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PIONEER HI-BRED INTERNATIONAL INC.
7100 N.W. 62ND AVENUE
P.O. BOX 1000
JOHNSTON, IA 50131

EXAMINER

MEHTA, ASHWIN D

ART UNIT PAPER NUMBER

1638

DATE MAILED: 04/09/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/759,759

Applicant(s)

WEBER, GERHARD P.

Examiner

Ashwin Mehta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29,33-43 and 47-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8,21,23-27 and 40 is/are allowed.
- 6) ☒ Claim(s) 9-20,22,28,29,33-39,41-43 and 47-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. The objection to claims 8 and 27 is withdrawn in light of the claim amendments.

3. The rejections to claims 1-49 under 35 U.S.C. 112, 2nd paragraph, are withdrawn in light of the claim amendments.

4. The rejection of claims 1-49 under 35 U.S.C. 112, 1st paragraph, requiring a deposit of seed of plant PH77V, is withdrawn in light of its deposit in compliance with the deposit rules of 37 CFR 1.801-1.809.

5. The rejection of claims 18-20 and 47-49 under 35 U.S.C. 112, 1st paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention is withdrawn, in light of the claim amendments.

Claim Rejections - 35 USC § 112

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6. Claims 22, 33, 47-49, and 50-53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 22: the recitation “said plant has essentially the same morphology and physiology of inbred maize line PH77V other than the trait of male sterility” renders the claim indefinite. It is not clear what is meant by “essentially the same.” The claim indicates that if the plant did not have the male sterility trait, it still would only be “essentially the same” as PH77V. It is not clear if plants that lack one or a few properties of PH77V are encompassed by “essentially the same.” If the plants are to have all of the same properties, the specification does not define how the genome may be changed while still yielding a plant that has the same properties as PH77V. It is not clear what plant is being referred to, as a plant that is different from PH77V in any way is not the same plant, as it would not have all of the same morphological and physiological traits. In the paper filed 06 January 2003, Applicants supply a definition of “essentially derived variety” (response, Appendix C). This definition indicates that an essentially derived variety is distinct and predominantly derived from a protected initial variety, while retaining the essential characteristics of that initial variety. However, it is not clear what the “essential characteristics” of the variety of the instant invention are considered to be. The definition supplied by Applicants also indicates that “essentially derived variety” was introduced to the 1991 Act of the UPOV Convention and was meant to “fill the gap” between Plant Breeder’s Rights and patents. However, the USPTO is not subject to UPOV Convention rules, as Article 35(2) of the 1991 UPOV Convention Act ensures that the United States adheres to its patent system.

In claim 33: the recitation “pedigree of said PH77V-progeny maize plant is within 2 or less crosses” renders the claim indefinite. A pedigree is a family tree. It is not clear what is meant by a pedigree being within 2 or less crosses to a plant. There is also insufficient antecedent basis for the recitation “the pedigree”.

In claim 47: the recitation “essentially unchanged” renders the claim indefinite. Similar to claim 22 above, it is not clear when a plant is considered “unchanged” as opposed to “essentially unchanged,” since plants that express different properties are not the same plant.

In claim 50: the claim broadens the scope of the claims from which it depends. The claims add on a gene and trait to the plant of claim 2. There is no indication as to how the plant acquired the gene, and the gene is not possessed by the plant of claim 2.

In claims 51-53: the recitation “inbred PH77V maize plant conferring a backcrossed trait” in lines 1-2 of claim 51, line 1 of claim 52, and line 1 of claim 53 renders the claims indefinite. It is not clear what is meant by a plant that confers a backcrossed trait.

In claim 52: the claim attempts to limit the “inbred PH77V maize plant conferring a backcrossed trait of claim 51”. However, claim 51 is directed to a method, not a plant.

Further in claim 52: the recitation “essentially the same traits” in line 3 also renders the claim indefinite. Similar to claim 22 above, it is not clear when a plant is considered to have the same traits, as opposed to “essentially the same traits,” since plants that express different properties are not the same plant. In the absence of the “backcrossed trait,” is the claimed plant have the same traits or “essentially the same” traits? If they are “essentially the same” traits, it is not clear what traits are different.

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18. Claims 9-20, 28, 29, 33-39, 41-43, and 47-49 remain and claims 22 and 50-53 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, for the reasons of record stated in the Office action mailed 04 September 2002 under item 4. Applicants traverse the rejection in the paper filed 06 January 2003. Applicants' arguments were fully considered but were not found persuasive.

Applicants first note that a claim to an F1 hybrid made with a deposited inbred was expressly acknowledged by the U.S. Supreme Court in *J.E.M. Ag. Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc.* (response, page 12, 5th full paragraph). However, the issue before the court in that case concerned matters under 35 U.S.C. 101, not written description. Applicants argue that F1 plants would have essentially the same genetic markers as the deposited PH77V, and that it is well known to anyone skilled in the art that a hybrid has a genome with one set of alleles from each inbred, and that the genetic profile exhibited in the deposit would be exhibited in the inbred (response, paragraph bridging pages 12-13). However, no information is described about the genetic markers of the deposited PH77V. In the absence of that information, one would not be able to identify an F1 hybrid based only on genetic markers. Further, the hybrid would also exhibit the genetic profile of the other parent, as well, and no description is at all is provided about the other parent. Applicants argue that SSR and RFLP techniques can be used to analyze F1 hybrids and determine if one of its parents is PH77V, and cite Berry et al. for discussing the probability of identifying the parents of a hybrid using SSR data when neither parent is known (response, paragraph bridging pages 12-13). However, Applicants have not described any SSR

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data for PH77V or the claimed progeny lines, or RFLP or any other molecular markers that are unique to PH77V.

Applicants argue that because of the linked genes fixed in PH77V, one can cross PH77V with another line, select a plant expressing at least 2 PH77V traits and a trait from the other plant line (response, paragraph bridging pages 13-14). However, the other parent could also express some of the same traits as PH77V and pass it on to the progeny. Further, the traits inherited from the other parent are not known, since the description of the other parent is not provided.

Applicants argue that the listing of traits to describe the claimed progeny plants is sufficient to meet written description requirements (response, page 15, 1st paragraph). However, only claim 14 lists any traits for the claimed progeny, and only requires two of the listed traits to be expressed. The other claims place no limitations on the traits that can be expressed, and can include traits that are not expressed by PH77V, and which are not described. Further, clearly, plants express many more traits than just two. The traits listed in the claims are also not unique to PH77V, and therefore describing a plant by saying that it expresses 2 common traits does not distinguish it from any other plant that expresses the same traits.

Applicants argue that the fact that technical tools to fully describe the unique characteristics of the full genome of PH77V do not exist, does not make the progeny lines derived from them any less entitled to adequate patent protection. Applicants continue, indicating that if the Office now views traits as an unacceptable means of description, other means of description by those of ordinary skill in the art may be used to satisfy written description. Applicants draw analogy to *Ex Parte Tanksley*, in which the Examiner desired that claims recite sequence data in order to better characterize a cDNA and facilitate a prior art

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search. The Board treated the written description rejection as a rejection under 112 2nd paragraph and held that the Examiner may not dictate the literal terms of claims for the stated purpose of facilitating a prior art search (response, page 15, 2nd full paragraph and the paragraph bridging pages 15-16). However, the situation in *Ex Parte Tanskley* is not analogous. Applicants are not being required to define or describe the claimed subject matter in any particular manner. Rather, here Applicants have not sufficiently described any descendent of PH77V in any manner.

Applicants argue that F1 progeny have half the genetic material of PH77V, but do not describe how one would identify that material. Further, the F1 also has half of the genetic material of the other, unknown, parent plant. As discussed above, no molecular markers that are unique to PH77V have been described. The morphological and physiological traits are not described for any PH77V descendent to the extent that it would distinguish plants encompassed by the claims from those that are not. Two traits, which would also be displayed by many other corn plants, do not comprise a distinguishing characteristic. No descendent of PH77V would express all of its morphological and physiological traits, unless it is a progeny of a self-cross.

Applicants continue, arguing that amended claims 17, 33, and 36 limit the progeny covered to those within two outcrosses from PH77V, and claim 41 is limited to one cross away from PH77V. Applicants argue that to those of ordinary skill in the art, this indicates that a line that is fewer crosses away from a starting line will be, as a whole, more highly related to the starting line, and the work of the original breeder in developing the starting line will be retained in the closely related progeny (response, page 16, 1st full paragraph). However, the progeny will also retain the material inherited from the other plants involved in the crosses, which are not described by the specification. The progeny plants would be closely related to the other,

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unknown parents and ancestors as well. Further, the progeny of claims 17 and 36 are not limited to those within two outcrosses from PH77V. Claim 17 for example, limits the method that produces the progeny to comprise 2 or less crosses to a plant that is not PH77V, or to comprise 2 or less crosses to a plant that has PH77V as a parent. Nothing is mentioned about the number of crosses to plants that do not have PH77V as a parent, for the latter choice. Applicants also argue that it is standard practice within the plant breeding industry for licensors' of inbred maize lines to retain a royalty from lines developed through the use of their inbreds, and that this provides evidence to those of ordinary skill in the art of plant breeding describe progeny in terms of pedigree (response, page 16, 1st full paragraph). However, the licensors pay royalties to use the licensed inbred, not the product progeny.

Applicants also argue that the mere fact that progeny are not created fails to preclude their patentability, and possession can be shown by describing distinguishing characteristics (response, paragraph bridging pages 16-17). However, only one of the claims indicates that only 2 of the listed traits need to be expressed, and those listed traits are expressed by other plants. The presence of those 2 traits themselves does not distinguish the claimed plants from other plants that express them. Applicants argue that pedigree is a distinguishing characteristic that is in compliance with written description guidelines (response, paragraph bridging pages 16-17). However, a pedigree does not describe the morphological and physiological traits of an organism, especially when all of the ancestors of an organism are not described. Further, it is not clear how a plant that is twenty generations removed from PH77V is described by it. Applicant argues that the genetics of PH77V is described by the ATCC deposit of its seed, and by limiting the progeny to 2 or less outcrosses, the concern that the progeny are only distantly related to

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PH77V is addressed (response, page 17, 1st full paragraph). However, the deposit only describes PH77V. It does not describe the morphological and physiological traits of any other plant.

Further, all of the claimed progeny plants are not limited to 2 or less outcrosses from PH77V.

Applicants cite *Enzo vs. Gen-Probe, U.S. State of Court of Appeals for the Federal Circuit*, for indicating that there are hundreds of subsequences of a deposited sequence which may also meet a claimed hybridization ratio, and for indicating that a deposited sequence is described by virtue of its having been deposited, and that various subsequences, mutations, and mixtures of those sequences are also described, and hold that question as an issue of fact (response, page 17, 1st full paragraph). However, the issue in *Enzo* and the instant rejection is not analogous. The hundreds of subsequences that may meet the claimed invention discussed in *Enzo*, and its various subsequences, mutations, and mixtures must still have the properties of the deposited sequence, not other properties or just a portion of the properties. If the subsequences, mutations and mixtures did not have the same properties, they would not have any relation to the deposited sequence. Applicants continue their analogy to *Enzo*, arguing that the issue of whether progeny as now claimed satisfies the issue of written description is also an issue of fact. Applicants argue that one of ordinary skill would know if PH77V were utilized in a breeding program by looking at the breeding records, and that routine molecular techniques can be used to verify whether PH77V is within the pedigree of a line (response, paragraph bridging pages 17-18). In the instant rejection, the progeny do not express all of the morphological and physiological traits of PH77V, unless it is a product of a self-cross. Further, determination that PH77V is an ancestor of a plant does not provide sufficient description of all of the morphological and physiological traits of that plant. Furthermore, the specification does not describe any molecular determinants

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that one would need to identify any genetic material as having been derived from PH77V or to verify that PH77V is within its pedigree. No description has been provided concerning molecular markers that are unique to the PH77V genome. Furtherstill, Applicants believe that the tools to fully describe the unique characteristics of the full genome of PH77V do not exist.

Applicants emphasize that the influence of PH77V cannot be removed from progeny that are 2 outcrosses removed from PH77V, and the claimed progeny cannot be derived without the use of PH77V as a parent. Applicants believe that this highlights the different perspective regarding claim scope between the Examiner and Applicant. Applicant contends that the Examiner's interpretation of the claims to progeny, as being of great breadth because a large number of plants could fall within its scope, ignores the essential limitation that only a plant developed through the use of PH77V is within the scope of the claim (paragraph bridging pages 18-19). However, the influence of the other ancestors of the claimed progeny plants also cannot be ignored. No description is provided at all as to the other ancestors, or the traits expressed by the progeny that are not expressed by PH77V. As PH77V is not the only ancestor of the progeny plants, the progeny necessarily express traits that are not expressed by PH77V. Yet, no description is provided at all concerning those traits. Applicant has argued that PH77V is unique, and that since PH77V is described, that its descendents must also be described. However, while the combination of genes that produce PH77V makes that line unique, Applicant does not provide any information as to why the genetic material itself is unique. For example, the specification does not describe why the genes that confer stalk lodging resistance are different from those genes that confer the same resistance in other corn plants. The claimed progeny plants do not have the complete combination of genes that produce PH77V. Applicants

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here have not described the qualities of the genetic material of PH77V that make it unique, other than referring to the genome of PH77V as a whole. As the claims are not limited to only self-crosses, all descendants do not inherit all of the genetic material of PH77V. Descendants also inherit genes from other ancestors.

Applicants also argue, regarding claims drawn towards the deposited lines further comprising one or more transgenes or single gene conversions, that examples of traits and single gene conversions are given in the specification. Applicants argue that even if more than one trait is affected by the transgene, that the genetics of PH77V will only be minimally affected, and argue that insertion of one or a few genes into a genome that is estimated to have over 50,000 to 80,000 genes is a minor change (response, paragraph bridging pages 19-20). However, Applicants are not considering the effect of the transgene on the morphological and physiological traits of PH77V. Even the novice in the art would recognize that even a single gene can have a significant effect on a plant. That the addition of a few more nucleotide sequences to the PH77V genome fails to significantly add to the total number of nucleotides, is not the point. Applicants also argue that claim 11 now indicates that the one or more transgenes confer a qualitative trait (response, paragraph bridging pages 19-20). However, the amendments still do not describe the claimed plants, as they have traits that differ from PH77V. Further regarding claims 50 and 52: the specification does not describe a gene whose product allows the production of white grain.

Regarding claims 12 and 13: Applicants argue that the method of claim 12 is described, that one of ordinary skill in the art would know if they were using PH77V or PH77V further containing a transgene to develop a hybrid, that the hybrid has a genome with one set of the

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alleles from each inbred, and that the plant of claim 13 would have the genetic profile of PH77V except for the transgene (response, page 20, 1st full paragraph). However, as PH77V plants further comprising a transgene are not described, methods that utilize them are not described, either. Further, the plants of claim 13 would also inherit half of its alleles from the other parent (which is not limited to be an inbred), which is not described.

Regarding claims 37-39, and other method claims: Applicants argue that the claims merely claim the method of searching for inbred PH77V seed within a bag of hybrid seed (response, page 21, 1st full paragraph and the paragraph bridging pages 21-22). However, as the hybrids used in the method are not described, the method cannot be fully described either.

Finally, Applicants argue that one of ordinary skill would know how to cross PH77V to develop an F1 hybrid and also how to self plants derived from crosses. Applicants cite *Ex parte Parks* for indicating that it is sufficient if the originally filed disclosure would have conveyed to one having ordinary skill in the art that an appellant had possession of the concept of what is claimed, and *J.E.M. Ag. Supply*, in which the Supreme Court stated that a breeder can use a plant that is protected by a PVP certificate to “develop” a new inbred line while he cannot use a plant patented under 101 for such a purpose (response, page 21, 2nd full paragraph). However, the concept of what is claimed is not clear, as the morphological and physiological traits expressed by the claimed progeny plants are not described. Further, that a breeder can use a plant protected by a PVP certificate, or deposited with the ATCC, is not the issue. The use of the deposited line does not provide a description of the claimed progeny plants.

Claim Rejections - 35 USC § 102 & 103

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§ 8. Claims 9, 10, 13, 14, 17, 22, 28, 29, 33, 36, 41-43, and 47-49 remain and claim 52 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35U.S.C. 103(a) as obvious over Puskaric (U.S. Patent No. 5,977,456), for the reasons of record stated in the Office action mailed 04 September 2002 under item 7. Applicants traverse in the paper filed 06 January 2003. Applicants' arguments were fully considered but were not found persuasive.

Applicants point out differences in several phenotypic traits between PH77V and PH1M7. For example, PH77V has pink anther color and purple glume color, whereas PH1M7 has yellow anthers and light green glume color (response, paragraph bridging pages 26-27). Some of the differences pointed out by Applicants are significant enough to distinguish PH77V from PH1M7. These differences, and other claim amendments, are sufficient to overcome the rejection for claims 1-8, 11, 12, 15, 16, 18-21, 23-27, 34, 35, 37-40, and 42 (claims 30-32 and 44-46 are cancelled).

Applicants argue that the claimed progeny plants of claims 41 and 43 are limited to plants that are one cross away from PH77V, and are limited by the use of PH77V in the initial cross. Applicants argue that one would not be able to obtain plants within one cross of PH77V through modification of PH1M7 because PH77V comprises a unique and nonobvious combination of genetics (response, page 27, 1st full paragraph). However, not all of the claimed progeny plants are limited to be within one cross of PH77V. For example, the plant of claim 14 is not limited to any generation. One cannot rely on phenotypic differences to distinguish the claimed plants from those of the prior art. Only claim 14 recites any traits that are to be expressed by the claimed plants. Puskaric teaches that hybrids produced from PH1M7 have high grain yield and a relative maturity of approximately 85-90. Further, the instantly claimed PH77V plant has only

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been described by phenotypic characteristics and not by genotype. While the combination of genes in the genome of PH77V may be unique, the specification does not teach that any particular gene is unique. Further, no molecular markers are taught that are unique to the PH77V genome, so one cannot determine the differences in the instantly claimed progeny plants from those of the prior art based on an analysis of the genome. A prior art plant having the same characteristics as the instantly claimed plant would anticipate the claimed plant even if it is made by a different method (i.e. different parent plants), and in the present case, only one of the claims places any kind of limitation on the characteristics that can be expressed. Further, the inbred taught by the reference is encompassed by the scope of claim 43, as the traits expressed by the claimed inbred are unknown. The inbred taught by Puskaric anticipates the instantly claimed inbred, as their properties do not distinguish each other, and as the method of making the plants does not distinguish them. As the rejected claims do not place any limitations on the properties of the claimed progeny plants and seeds (except for claim 14), the Examiner does not have sufficient facts to determine whether the progeny plants and seeds are inherently the same. The Examiner cannot conclude that the claimed subject matter would have been obvious since it cannot be determined whether the plants differ from teachings of the reference. Where the prior art product seems to be identical, except that the prior art is silent to a characteristic or property claimed, then the burden shifts to Applicant to provide evidence that the prior art would neither anticipate nor render obvious the claimed invention. See *In re Best* 195 USPQ 430, 433 (CCPA 1977).

Applicants also submit the declaration of Dr. Stephen Smith, an employee of the assignee of the instant application, as evidence that the claimed progeny plants retain unique and non-

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obvious combinations of genetics derived from PH77V (response, paragraph bridging pages 27-28). The declaration indicates that SSR data markers were compared between PH77V and PH1M7. Of 150 SSR markers examined between the two plants, 37 showed differences. Of these, 19 were greater than 50 cM in distance and would not segregate together (declaration, item 3). However, the declaration does not describe the markers that are found in PH77V and the descendants derived therefrom. The declaration does not teach which, if any, of these markers are associated with the traits listed in claim 14. The declaration also indicates that it is extremely unlikely that a PH77V progeny, after one cycle of breeding, would be the same as PH1M7, and that it is unrealistic to assume that the only differences between PH77V and PH1M7 are the 37 markers is unrealistic (items 4 and 5). However, the instant claims directed to plant PH77V and its parts, have been withdrawn from the rejection. The declaration also indicates that the current maize genetic map contains sixty 50 cM units, which represents the maximum number of segregating loci, and, that these assumptions overestimate the odds of breeding PH1M7 from PH77V (item 5). However, as discussed above, there are no limits on the characteristics that the inbred of claim 43 can express, and without a description of the unique markers present in PH77V, one cannot determine if the instantly claimed inbreds can only be derived from PH77V.

Regarding claims 22 and 52: the rejection of claim 22 is maintained and applied to claim 52 because of the uncertainty of the recitation “essentially the same,” as discussed above. Because of this recitation, plant PH1M7 can be considered to have essentially the same morphology and physiology of PH77V, and the reference teaches PH1M7 further having the trait of male sterility and resistance to a disease.

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Summary

9 ~~10~~. Claims 9-20, 22, 28, 29, 33-39, 41-43, and 47-49 remain and claims 50-53 are rejected.

Claims 1-8, 21, 23-27, and 40 are allowed.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

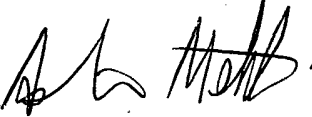
Contact Information

Any inquiry concerning this or earlier communications from the examiner should be directed to Ashwin Mehta, whose telephone number is 703-306-4540. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays from 8:00 A.M to 5:30 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at 703-306-3218. The fax phone numbers for the organization where this

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application or proceeding is assigned are 703-305-3014 and 703-872-9306 for regular communications and 703-872-9307 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is 703-308-0196.

April 3, 2003



ASHWIN D. MEHTA, PH.D
PATENT EXAMINER